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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/091,290

03/06/2002

Ling-Zhong Liu

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MARKS & CLERK

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CANADA

EXAMINER

WANG, QUAN ZHEN

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,290

Applicant(s)

LIU ET AL.

Examiner

Quan-Zhen Wang

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/1/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "a sender unit at each node"; "a receiver unit at each node"; "a message channel" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Lang et al. (J. P. Lang and J. Drake, "Link management protocol (LMP)", National Fiber Optical Engineers Conference 2000).

Regarding claims 1 and 11, Lang discloses a system for automatically discovering port mapping between neighboring optical nodes (figs. 1 and 2, nodes PXC's) in a switched optical network comprising a sender unit (fig. 2, sender in PXC A) at each node for sending a connection discovery message to said other node, and a receiver unit (fig. 2, receiver in PXC B) at each node for receiving a connection discovery message for said other node, whereby connection port pair information is encoded into said messages (Section 2: Introduction; Section 3: Control Channel Management; Section 4: Verifying Link Connectivity).

Regarding claim 2, Lang further teaches that the handshaking protocol (LMP) performs connection fault diagnostics (Section 6: Fault Localization).

Regarding claim 3, Lang further teaches that the handshaking protocol (LMP) includes the transfer of connection discovery messages (Section 4: Verifying Link Connectivity).

Regarding claim 4, Lang further teaches that the handshaking protocol (LMP) is transferred between the nodes utilizing a dedicated wavelength channel (fig. 1, control channel C).

Regarding claims 5-8, Lang further teaches that the connection discovery messages include connected port pair information (BCId; Section 4, Verifying Link Connectivity), the information inherently includes node name and port number; connection status; and diagnostic information.

Regarding claims 9-10, and 16, Lang further teaches that a receiver unit scans specified ingress port for incoming connection discovery messages, until a sender unit at the node finishes scanning of egress ports on the node (Section 4.1: Example of Link Verification).

Regarding claim 12, Lang further teaches that neighboring optical nodes are interconnected via a bundle of optical fibers (figs. 1 and 2).

Regarding claim 13, Lang further teaches that each node has a plurality of ports, and an optical fiber connecting ports on respective nodes (figs. 1 and 2).

Regarding claim 14, Lang further teaches that each port has a port name and a unique port number (fig. 2).

Regarding claim 15, Lang further teaches that each sender unit and each receiver unit sends and receives connection discovery messages over a message channel (fig. 2, channel c; Section 3: Control Channel Management and Section 4: Verifying Link Connectivity).

Regarding claim 17, Lang further teaches that the optical nodes have performance testing functionality to determine quality of the connection between said optical nodes (Section 6.1: Fault Detection).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lang et al. (J. P. Lang and J. Drake, "Link management protocol (LMP)", National Fiber Optical Engineers Conference 2000) in view of Bendak et al. (U.S. Patent US 6,684,351 B1).

Regarding claim 18, Lang differs from the claimed invention in that Lang does not specifically teach that the performance testing functionality is provided by a Bit Error Rate Test Set (BERTS). However, using a Bit Error Rate Test Set (BERTS) to test for the performance is well known in that art. For example, Bendak discloses that "Bit error rate testers (BERTS) are commonly used to diagnose and determine the performance of almost any kind of communication link" (column 1, lines 15-17). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a BERTS in the system of Lang in order to diagnose and determine the performance the communication link.

6. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lang et al. (J. P. Lang and J. Drake, "Link management protocol (LMP)", National Fiber Optical Engineers Conference 2000) in view of Wing So (U.S. Patent Application Publication US 2002/0109879 A1).

Regarding claim 19, Lang differs from the claimed invention in that Lang does not specifically teach that the performance testing functionality is provided by a Synchronous Optical Network (SONET) payload. However, it is well known in the art to use Synchronous Optical Network (SONET) payload for performance testing. For example, Wing So discloses to monitor performance using SONET payload (paragraph 0294). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to using SONET payload for performance testing, as it is disclosed by Wing So, in the system of Lang in order to monitor the performance of the system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
1/25/2006



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